

**INSTITUTE OF PUBLIC HEALTH
COLLEGE OF MEDICINE AND HEALTH SCIENCES
UNIVERSITY OF GONDAR**



**DETERMINANTS OF ANTENATAL CARE CLIENT SATISFACTION AT PUBLIC
AND PRIVATE HEALTH FACILITIES IN URBAN TOWNS OF THE TIGRAY
REGION**

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**INSTITUTE OF PUBLIC HEALTH
COLLEGE OF MEDICINE AND HEALTH SCIENCE
UNIVERSITY OF GONDAR**

**ASSESSMENT OF CLIENT SATISFACTION AND ASSOCIATED FACTORS
AMONG ANC SERVICES IN PRIVATE FOR PROFIT (PFP) AND PUBLIC
HEALTH AGILITIES IN TIGRAY REGION**

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ACRONYMS

ANC:	Antenatal Care
EDHS:	Ethiopian Demographic and Health Survey
FDRE:	Federal Democratic Republic Ethiopia
FANC:	Focused Ante-natal care
FP:	Family Planning
HIV:	Human Immuno-deficiency Virus
HSDP:	Health Sector Development Plan
MDG:	Millennium Development Goal
MOH:	Ministry of Health
PFPH:	Private for Profit Health Institutions
PHI:	Public Health Institutions
PNC:	Post Natal Care
TRHB:	Tigray Regional Health Bureau
UNICEF:	United Nations Children Fund

ABSTRACT

Assessment of client's satisfaction is considered as one of the desired outcomes of health care and it is directly related to utilization of ANC services.

ANC coverage in Ethiopia is very low and according to EDHS 2011, the utilization is about 34%, 50% in Ethiopia and Tigray respectively. As a result the MMR remains unacceptably high at 676 per 100,000 live births and only 10%, 12% of women deliver with a skilled provider and In Ethiopia the ANC services are characterized by: Poor attendance, Poor counseling services and Poor client-provider relations, there are some substandard practices and malpractices observed in few facilities in both setups that need to be given due attention.

Objective: To assess level of client satisfaction and associated factor among antenatal care services users in the public and private-for-profit health institutions in urban cities of the Tigray region, Ethiopia.

Methods: Institutional based comparative cross sectional study was conducted at randomly selected 540 pregnant women were interviewed. Descriptive statistics and binary logistic regressions analyses were performed. The odds ratio (OR) with a 95% confidence interval (CI) was used to test the statistical significance of Variables.

Results: The overall satisfaction was 64.4% for public facilities and 79.6% for private facilities ($P < 0.01$). The result revealed that there is only significance difference on the clients satisfaction on ANC services with regard to occupation significantly associated with client satisfaction on ANC service with housewives (AOR=4.735 CI (1.291-17.372), merchant s(AOR=3.843 CI (.981-15.061)) and (AOR= 2.7, CI : 0.72-10.170) as compared to students at public but at Private variables that doesn't have association. In general better satisfactions were observed among those mothers served in private facilities in all likert items On the other hand, costs paid for services favors better satisfaction rate among mothers served at public health facilities.

Conclusion: this study had revealed that mothers getting ANC at private facilities showed greater satisfaction level. Hence, important measures have to be taken by the concerned bodies at public health facilities to shorten waiting time, increase availability of drugs, and support health care providers to give adequate information and due respect for mothers. The private facilities need to consider the cost for service to be affordable by the mothers.

1. INTRODUCTION

1.1 Statement of the Problem

There is evidence that the newly adapted WHO guidelines of FANC (focused Antenatal care) improves the quality of care and is quite acceptable among clients. It is therefore expected that ANC should go a long way in reducing MMR and influencing the use of skilled delivery care among women.⁽¹⁵⁾ ANC coverage in Ethiopia is about 34% and 50% in Tigray. This indicates women reporting at least one ANC visit or that women are willing to present themselves for care. In addition, Ethiopia has adopted the WHO recommended focused ANC (FANC) model known to improve quality.⁽¹³⁾ Despite this, MMR remains unacceptably high at 676 per 100,000 live births and only 10% of women deliver with a skilled provider.⁽⁷⁾

The above findings suggest a deficiency in quality given the indicators of quality maternal health as MMR and proportion of births with skilled personnel. In the Ethiopia health system maternal health service including ANC is provided by public and private health institution. The main difference in between those two sector is the cost the cost of ANC services at public health facilities is free without discrimination but in the private facilities it is with a one-time standard fee and the fee is payable on the first visit but clients paid for card every visit; However, the cost of ANC at the private clinics with fees varying widely from one clinic to another.

With public facilities being widely utilized by women of lower economic cadre who are often victims of high MMR, there is need to target interventions to such settings so as to ensure that women presenting themselves to ANC reap maximum benefits from the care. ANC is key in attainment of the MDG targets number 4, 5 and 6 of reducing by the under-five mortality, by three-quarter the MMR, and reversing the spread of HIV/AIDS, incidences of malaria and other disease by 2015.⁽¹⁵⁾

Despite the increased number of institutions (Public and private health facilities) in the region, provision of quality health services has not yet made possible through out these facilities; there are some substandard practices and malpractices observed in few facilities in both setups that need to be given due attention.⁽²²⁾

1.2 Literature Review

A study conducted in Addis Ababa presents the proportion of respondents satisfied with each of the 20 items as well as their mean satisfaction score. The client's satisfaction was measured using a satisfaction scale of completely dissatisfied (1) to completely satisfied (5). Of the 20 items, a proportion of complete satisfaction above 25% was recorded for waiting time to see provider (35.5%), provider listens to your worries (26%), respect by provider (41.6%), respect by nurse (40.7%) and amount of freedom in the ward (40.2%). Lower proportion of complete satisfaction was reported for pain control (2.4%), providers' explanation about client's condition (4.5%), provider's explanation about medications (0.7%), information given about the procedures (0.9%), quality of meal (3.3%) and facility cleanliness (3.8%). The mean satisfaction score for health care related items was at a higher scale (3.90-4.14) except for pain control (2.33).

The mean satisfaction score for health worker attitude variables ranged from 3.85 to 4.24. Health workers communication and environment categories recorded a relatively lower mean satisfaction score: the lowest score in the two groups being provider's explanation about medications (2.44) and facility cleanliness (3.43) respectively. (13-15)

Asking patients what they think about the care and treatment they have received is an important step towards improving the quality of care, and ensure local health services are meeting patients' needs. It is an established fact that satisfaction influences whether a person seeks medical advice, complies with treatment and maintains a continuing relationship with practitioners. Donabadian, arguably the leading theorist in the area of quality assurance, has emphasized that Client satisfaction is of fundamental importance as a measure of the quality of care because it gives information on the provider's success at meeting those client values and expectations, which are matters on which the client is the ultimate authority.(7)

Several studies conducted in Out Patient Departments of different hospitals in Ethiopia revealed client satisfaction level ranging from 22.0% in Gondar to 57.1% in Jimma.(6,7)Long waiting hours during registration, visiting of Doctors after registration, laboratory procedures and re-visiting of the Doctor for evaluation with

laboratory results failure to obtain prescribed medications from the hospitals' pharmacies and difficulty to locate different sections were the frequently faced problems affecting utilization leading to dissatisfaction.(7)

For many years, high standards of care were considered a luxury particularly in developing countries where service coverage was largely inadequate. Quality of health care is seen as a factor closely related to effectiveness, compliance and continuity of care particularly for ethical reasons. Women's perceptions of antenatal visits significantly influence their assessment of quality of services that are provided. Because of this new focus, measurement of customer satisfaction has become equally important in assessing system performance.(16)

Patient satisfaction has traditionally been linked to the quality of services given and the extent to which specific needs are met. Satisfied patients are likely to come back for the services and recommend services to others⁶. Various factors including attitude of staff, cost of care, time spent at the hospital and doctor communication have been found to influence patient satisfaction in previous studies. The study objective was to ascertain the perception of and satisfaction with the quality of ANC services among pregnant women at the UCH, Ibadan. The study also sought to correlate patient's satisfaction with future use of maternity services in the institution.(16)

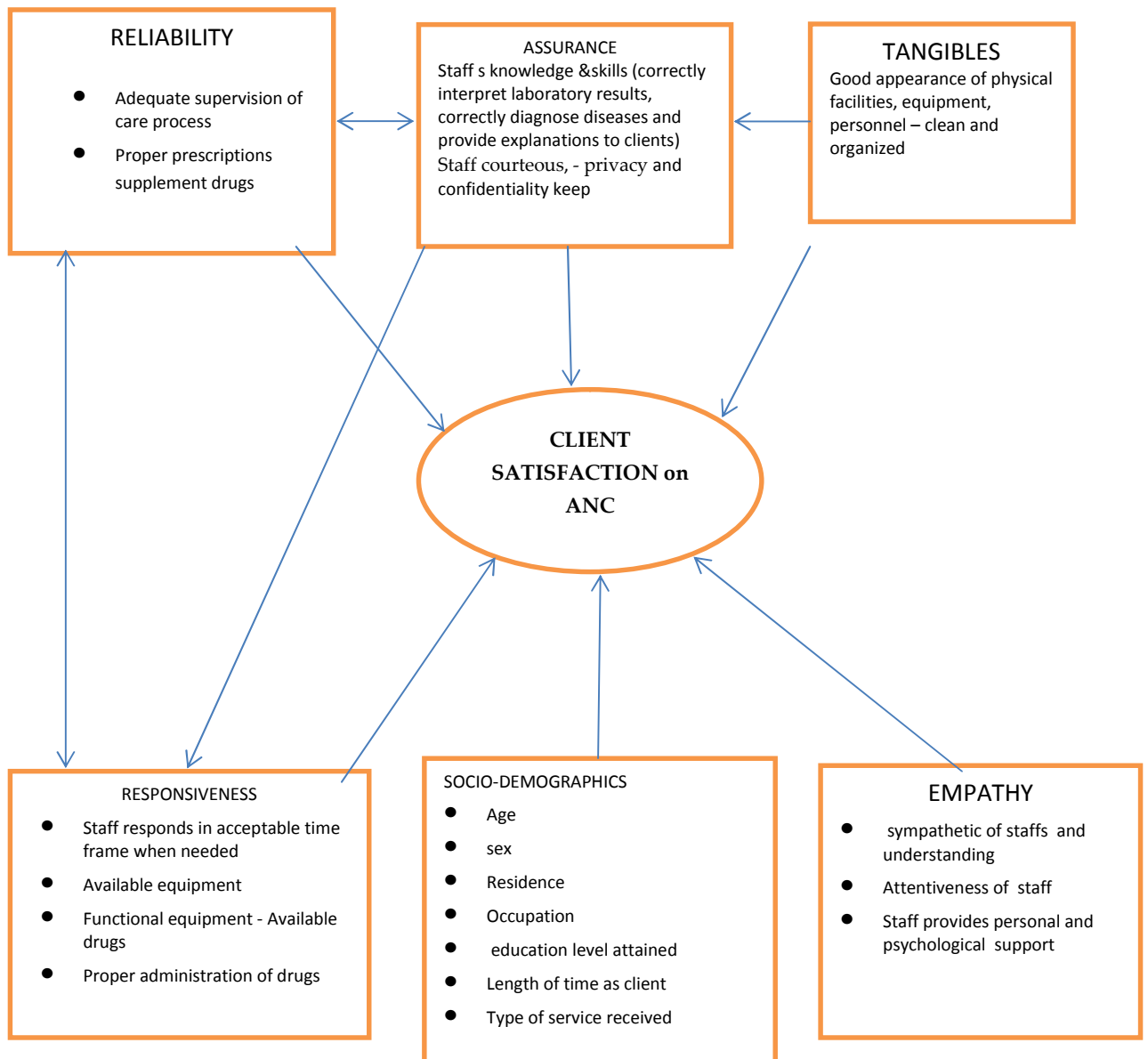
Similar study was done in Gambia and the study showed us the satisfaction rate with antenatal services was 79.9% for public facilities and 97.9% for private facilities. Pregnant women's poor perception with public facilities (after adjustment) included their unhappiness, with the following dimensions of antenatal care (ANC): inadequate privacy, inadequate space and neatness and inadequate communication with care providers.(1, 17)

The efficacy of medical treatment is enhanced by greater patient satisfaction. Consequently, patient satisfaction is un-doubted a useful measure, and to the extent that it is based on patients' accurate assessments, it may provide a direct indicator of quality care. Moreover, a study conducted in Bangladesh highlights the gap between the notion of patient satisfaction as an element representative of quality of care and high quality health care from a professional point of view. Thus, the most powerful

predictor for client satisfaction with government health services was the provider's behavior towards the patient, particularly respect and politeness. This aspect was much more important than the provider's technical competence (characterized by elements such as explaining the nature of the problem, physical examination, and giving advice). The second most powerful predictor for being satisfied was the respect for privacy, followed by short waiting times. In order to be satisfied, patients expected waiting times of less than 11 min on average — this should be contrasted with the normal situation in developed countries, where waiting times, even with a prior appointment, are rarely less than 15 min.(18)

Furthermore, reducing waiting times (to 30 min at most) was more important to clients than prolongation of consultation times (on average, 2 min, 22 sec). The average consultation time was twice as long in the study area as in other parts of Bangladesh (study by UNICEF in 1992), and 75% of clients were satisfied with its length, although it seems rather short from a professional standpoint. It might be claimed, however, that this consultation time could suffice if the health condition and reason for consultation were simple enough to allow a diagnosis from simply taking a medical history(18)

Figure 1: CONCEPTUAL FRAMEWORK: An adaptation of SERVQUAL, developed by Parasuraman et al. 1988



1.3 Justification

The number of mothers getting ANC services from public and private-for-profit health facilities is significantly increasing. Despite this, there is no study done in the region to assess client satisfaction on client perspective in both public and private-for-profit health facilities. Therefore, this study will have important inputs in assessing what looks like the level of clients' satisfaction in comparison with the private and public institutions on antenatal care services. It was also designed to identify the factors affecting the clients' satisfaction, and provide valued recommendation to improve it and to boost the quality of client services at health institutions and improve the level of clients' satisfaction.

2. OBJECTIVES

2.1 General Objective

To assess level of client satisfaction on of antenatal care service users and its associated factors, in public and private health facilities in urban towns of the Tigray region.

2.2 Specific Objectives

- ❖ To measure client satisfaction on quality of ANC service users in public and private health facilities in urban cities of the Tigray region.
- ❖ To identify factors associated with ANC Client satisfaction among public and private health facilities in urban cities of the Tigray region.

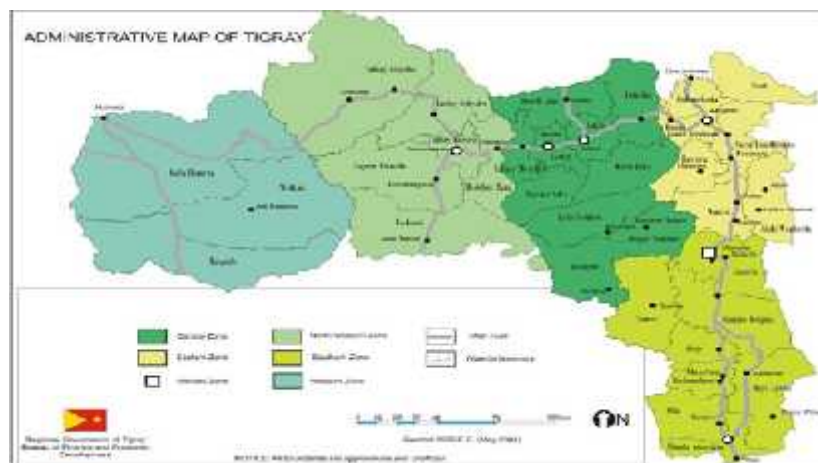
3. STUDY DESIGN AND METHODOLOGY

3.1 Study Design

The study design employed in this study was a comparative cross sectional study at selected institutions (both public and Private) which have ANC service using qualitative technique. Women's attending in the institutions for ANC services interviewed using a structured questionnaire with Cluster sampling method.

3.2 Study Area

The study was conducted in the Tigray northern part of Ethiopia, having population of 5.1 million (CSA2017). In 2013, there were 240 public health facilities (16 hospital and 224 health center), and more than 500 Private health Facilities (TRHB profile 2013). Main towns of the region (Mekelle, Alamata, Maichew, Adigrat, Adwa, Axum and shire) where health facilities of private and public exist were targets of the study. Then the types of facilities included for the study were higher clinics and private hospitals from the private sectors, and health centers and hospitals from the public sector.



3.3 Source and Study Population

All pregnant women utilizing antenatal care services in the health facilities were the source populations. And pregnant women utilizing of antenatal care service in the health facilities during data collection period were considered as study population.

3.3.1. Inclusion Criteria

All pregnant women using ANC services in selected private and public health facilities are included in the study.

3.3.2. Exclusion Criteria

Pregnant women who are seriously ill and unable to respond to the questions, pregnant women who could not give consent (age is < 18 years, mentally impaired); moreover,

3.4 Sample Size Determination

Sample size is calculated by assuming, clients' satisfaction prevalence rate to the service they received. To determine the required data, two population proportion formulas is used.

$$\text{Sample size } n = (Z_{/2} + Z)^2 * (p_1(1-p_1) + p_2(1-p_2)) / (p_1 - p_2)^2,$$

where $Z_{/2}$ is the critical value of the Normal distribution at $/2$ (e.g. for a confidence level of 95%, α is 0.05 and the critical value is 1.96), Z is the critical value of the Normal distribution at β (e.g. for a power of 80%, β is 0.2 and the critical value is 0.84) and p_1 and p_2 are the expected sample proportions of the two groups.

Since there is no comparative study done in Ethiopia, the sample size is calculated based on a similar study done in Gambia.

Given: $Z_{/2} = 1.96$ (at 95% confidence interval)

$$Z = 0.84 (\text{power of 80\%})$$

$$P_1 = 0.98 \text{ (private facility)}$$

$$P_2 = 0.80 \text{ (public facility) of Gambia and considering public to private 1:1 ratio}$$

$$n = (1.96 + 0.84)^2 + 0.98(1-0.98) + 0.80(1-0.80) / (0.98-0.80)^2$$

$$n = 7.84 + 0.0196 + 0.16 / (0.178)^2$$

$$n = 8.0196 / 0.032 = 250$$

Therefore, the sample is determined to be 250 and considering 8 % non-response rate the sample size has been raised to 270

Therefore, 540 mothers attending ANC has been selected to participate in this study (270 from private and 270 from public health facilities).

3.5 Sampling Procedure

Considering a facility as cluster, cluster sampling technique was applied to select facilities targeted for the study. While selecting the clusters the private and public facilities were matched in terms of geographical setting, expertise of staff and others. In order to select the clusters, each site was assigned in a unique identification number, and a lottery procedure was applied for selection. Accordingly 13 public facilities and 13 private facilities in the region were included in the study.

The sample size of this study was determined by the double population proportion formula by considering 56.7% proportion of satisfaction of a study done in Malaysia with a marginal error of 8% between the sample and the population at 95% confidence level, which were 540 pregnant mothers from 26 (13 public facilities and 13 private facilities). Pregnant women who were registered for antenatal care during data collection period were taken until the required sample size was fulfilled after proportionally allocating the sample population to each health facilities.

3.6 Study Variables

Dependent Variable:

Client satisfaction on ANC

Independent Variables

Facility Type (public and private health facilities)

Socio demographic such as Age, Educational status and income)

Knowledge related to ANC

3.7 Operational Definitions

The following are Operational definitions used during the course of conducting this study;

Client waiting time: The interval between departure from the proceeding outpatient station and receiving service at the next outpatient station.

Client Satisfaction: In this study while assessing ANC service client satisfaction were consider items of waiting time to see health worker, courtesy and respect, information, education and counseling, over all cleanliness of the facility, confidentiality and trust in provider, availability of drugs and supplies and cost paid to

service and level of privacy during examination. Then, each item had 5 point Likert Scale which ranges between 1 and 5; the scores for each domain were calculated by summing the answers to all items in each domain. Clients' overall satisfaction was classified into two categories satisfied and dissatisfied.

The rate of satisfaction for each study participant was summed up and accordingly those who scored 75% and above are counted as satisfied and those who scored below 75% are counted as unsatisfied

Very satisfactory: Above one's expectation.

Satisfactory: Just one's expectation.

Dissatisfactory: Below one's expectation.

Very dissatisfactory: Fail to meet one's expectation usually leading to disappointment.

Service: any activity undertaken to meet the health needs.

Quality: The degree to which health care services for individuals increase the likelihood of desired health outcomes

A private For-profit Health institution (PFPH) refers to Health institutions operated by private owners and for profit-seeking businesses then in this study refers to higher clinics and hospitals.

Public health institutes (PHI) are nonprofit health institutions and funded by government to provide health services to communities by staffing and allocating resources then in this study refers to health centers and hospitals ,

Knowledge

Choices were given to assess mother's knowledge related to ANC and its benefit then the knowledge scores were divided to three levels 1-3 poor knowledge related to ANC, 4-6 moderate knowledge related to ANC and 7-8 good knowledge related to ANC

Access: refers to entry into or use of the health care service by the population

3.8 Data Collection Tools

Exit interview have been used to assess the client's understanding of the consultation/examination, as well as recall of instructions received for treatment or preventive behaviors. Recall of key messages increases the likelihood that clients will be able to successfully follow treatment or perform the preventive behaviors that optimize healthy outcomes. (Appendices I - VI) the client exit interviews were done for mothers who are coming for ANC and clients has also been interviewed after they completed providers' consultation in comfortable and isolated place.

3.8.1 Questionnaire

Structured questioners were prepared in English language then it translated in to Tigrigna and pre-tested on selected respondents and necessary corrections has been made. The researcher was involved in guiding the data collectors on sampling procedures, data collection procedures and other administrative and logistic issues. All data collectors were expected to explain every participant of the study about the purpose of the study and get their consent for interview.

A total of 540 women agreed to participate (270 in the public clinics and 270 in the private clinics). The response rate was 100%. Individual informed consent was obtained from each participant, and the interviews were held in a private environment.

The questionnaire was divided into four sections, namely basic profile, socio-demographic, characteristics; Knowledge related to ANC and level of Client satisfactions. Assessment included waiting time ;(Waiting time to see health worker), Courtesy and respect, Information, education and counseling, Over all cleanliness of the facility, Confidentiality and trust in provider, Availability of drugs and supplies, Cost paid to service and Level of privacy during examination. Time spent with the provider and some structural features such as privacy, neatness and space at the facility. With regard to information, women were asked to rate the amount of information they received about danger signs during pregnancy and some maternal conditions.

Client satisfaction on ANC service had got in the facility was the main outcome variable therefore an exit interview was used to assess their level of satisfaction By asking the following three sequential questions: First, women were asked whether (should they become pregnant again) they would want to come back to the health

facility or not; secondly, whether they would recommend the facility to others and finally, their level of satisfaction.

The Provider interview questionnaire was the only self-administered and data collectors filled the Observation and exit interview.

3.8.2 Training

Four data collectors' nurse's students and one supervisor MPH graduate recruited and provided with a half day orientation to familiarize them with the purpose of the study and the specific procedures to collect the data.

3.8.3 Pretest

A pretest was conducted in two health facilities (one from Public and one from Private) located in Mekelle town by the principal investigator and one assistant interviewer 1 week prior to the commencement of the study, with 16 pregnant women attending in one facility which is not selected for the study. The selected institutions for pretest have similar infrastructure and system with the study institutions. In the presence of principal investigator, both the interviewers and supervisor assessed clarity, understandability, flow of questions, the time needed to fill the questions and completeness of the questions. Then, after through discussions some minor modification and omissions has been made in some of the ambiguous questions.

3.8.4 Data Collection

The data is collected from 17 Feb 2014 to 17 March 2014. Four trained nurses and one professional MPH graduating supervisor with the assistance of principal investigator actively participated in the data collection.

3.8.5 Data Quality Control

The quality of the data was assured through careful modified questionnaire other similar topics, translation and pretesting of the questionnaire, proper trained of data collectors and supervisor, and proper handling of the data. It was monitored frequently both in field and during data entry; that is all complete questionnaires were examined for its completeness and consistency during interview and of each day. Data entry was also do carefully by principal investigator and experienced data clerk after cleaning the data.

3.9 Data Management and Analysis

To ensure good quality of information, both principal investigator and supervisor edited the completed questionnaires before entering the data into the computer following the data collection, data were coded and the data entered, cleaned up by Epi-Info and transported to SPSS for further analysis. Descriptive statistics and binary logistic regressions analysis were performed. In the binary logistic regression, both binary and multivariate analyses were carried out. In Descriptive statistics, frequency distribution, mean, and percentage were employed for most variables. Forward stepwise binary logistic regression analysis was done to assess the relative importance of the explanatory variables on the dependent variable (appropriate health seeking behavior). The odds ratio (OR) with a 95% confidence interval (CI) was used to test the statistical significance of Variables.

4. ETHICAL CONSIDERATIONS

Ethical clearance has been obtained from Gondar university institute of public health. Verbal consent from respondents is mandatory during the time of interview, including telling them the right to reject any of the questions during interview if discomfort occurred. Anonymity and confidentiality is ensured for information obtained from study subjects before the interview.

5. RESULTS

5.1 Socio-Demographic Characteristics

A total of 540 of mothers aged 15-49 participated in the study of which 270 mothers were interviewed from private and the remaining 270 were from public health facilities. Among the respondents, 497(92%) were from urban, 483(89.4%) married, 364 (67.4%) in the age group 18-29, 354 (65.5%) were from the orthodox religion (*Table 1*).

Table 1: Socio- Demographic characteristics of study Participants

VARIABLES	PUBLIC (N=270)	Private (N=270)
Age group		
18-29	176 (65.21%)	178 (65.9%)
30-49	94 (34.8%)	92 (34.1%)
Educational Status		
<=Junior (5-8)	110 (40.7%)	76 (28.2%)
Secondary (9-12)	89 (33%)	79 (29.3%)
Tertiary (diploma and above)	71 (26.3%)	115 (42.6)
Religion		
Orthodox	204 (75.6%)	198 (73.3%)
Catholic	15 (5.6%)	11(4.1%)
Protestant	11 (4.1%)	9 (3.3%)
Muslim	40 (14.8)	52 (19.3)
Parity		
0-1	114 (42.2 %)	121 (44.8%)
2-4	127 (47%)	138(51.1%)
>5	29 (10.7%)	11 (4.1%)
Occupation		
House wife	137 (51.9%)	117 (44.7%)
Merchant	45(17%)	54 (20.6%)
Government employee	62 (23.5%)	76(29.7%)
Student	20(7.64%)	15(5.7%)
Income		
<500	73(27%)	57 (21%)

500-1500	136(50.4%)	111 (41.1%)
>1500	61 (22.6%)	102(37.8%)
Marital Status		
Married	241 (89.3%)	242 (89.6%)
Single	23 (8.5%)	19 (7.0%)
Divorced	4 (1.5%)	2(0.7%)
Widowed	1(0.4%)	2(0.7%)
Separated	1(0.4%)	5(1.9%)

5.2 Client Satisfaction on Quality of ANC Care Services

Table 2: Satisfaction level among ANC clients in Public and Private Health Facilities, Tigray Ethiopia, May2014, (n=270 for Public, and 270 for private)

S.N	Satisfaction measure variable	Percentage of respondents who are reported to be satisfied (Scored 75% or above)	
		Public, n=270	Private, n=270
1	Cost	91.5	83.7
2	Waiting time	58.5	82.2
3	Courtesy and Respect	72.2	91.5
4	Information, Education &counseling	79.6	81.5
5	Facility Cleanliness	73.7	91.9
6	Confidential &Trust on provider	81.9	92.2
7	Level of privacy during examination	73.3	94.4
8	Drug & supply availability	65.2	79.3
9	Overall satisfaction	69.6	85.6

Therefore Out of the total 540 participants 389(72.0%) were satisfied on ANC services whereas 125 (23.1%) were unsatisfied on the service. The proportion of participants who are satisfied with the service among public and private health facilities are 174(64.4%) and 215(79.6%) respectively.

Table 3: Summary Table of Predicators of satisfaction on multivariate analysis among pregnant women attending ANC at public health facilities in towns of Tigray region, May 2014

OVERALL CLIENTS SATISFACTION ON ANC SERVICES						
		Client satisfaction Yes	No	Total	COR (95%CI)	AOR (95%)
Marital status	In union	159(65.98%)	82(34.02%)	241	1.146(.499-2.630)	.357(.105-1.215)
	Not in union	20(68.97%)	9(31.02%)	29	1	1
religion	Orthodox	140(68.62%)	64(31.38%)	204	1.178(.577-2.405)	
	Catholic	8(53.33%)	7(46.67%)	15	.615(.184-.2.053)	
	protestant	5(45.46%)	6(54.54%)	11	.449(.116-1.736)	
	Muslim less than Junior	26((65%)	14(35%)	40	1	1
Education	secondary	60	29	89	.706(.381-1.309)	
	tertiary	37	34	71	.372(.197-.700)	
occupation	housewife	99(72.26%)	38(27.74%)	137	.945(.448-1.991)	4.735(1.291-17.372)
	merchant	32(71.11%)	13(28.89%)	45	.316(.169-.590)	3.843(.981-15.061)
	government employee	28(45.16%)	34(54.84%)	62	1.535(.482-4.887)	2.706(.720-10.170)
	student	16(80%)	4(20%)	20	1	1
income	<500	52(71.23%)	21(28.77%)	73	1.208(.578-2.523)	
	500-1500	86(63.24%)	50(36.76%)	136	.839(.443-1.588)	
	>1500	41(67.21%)	20(32.79%)	61	1	
Age interval	18-34	63(73.26%)	23(26.74%)	86	1.606(.914-2.821)	
	35-49	116(63.04%)	68(36.96%)	184	1	
Parity interval of mothers	1-3	141(64.98%)	76(35.02%)	217	1.391(.304-6.379)	
	4-6	34(73.91%)	12(26.09%)	46	2.125(.414-10.903)	
	.>=7	4(57.14%)	3(42.86%)	7	1	

Multiple logistic regressions were applied to identify the factors affecting client's satisfaction on ANC services. After adjusting for the potential confounding factors such as type of health facility, residence, parity, knowledge on ANC, income status, occupation, educational status, and age. The result (Table 3) revealed that there is only significance difference on the clients satisfaction on ANC services with regard to occupation house wife, merchant and employed was found to be significantly associated with client satisfaction on ANC service with (AOR=0.945 CI (.448-1.991)), (AOR=0.316 CI (.169-.590)) and (AOR=1.535 CI (.482-4.887)) respectively.

And the type of health facilities Adjusted OR=2.414 (95%CI, 1.552, 3.756)

Table 4: Summary Table of Predicators of satisfaction on multivariate analysis among pregnant women attending ANC at private health facilities in towns of Tigray region, May 2014

		Client satisfaction		Total	COR (95%CI)	AOR (95%)
		Yes (%)	No (%)			
Marital status	In union	211(87.19%)	31(12.81%)	242	.817(.233-2.867)	
	Not in union	25(89.29%)	3(10.71%)	28	1	
religion	Orthodox	174(87.88%)	24(12.12%)	198	1	
	Catholic	10(90.91%)	1(9.09%)	11	.771(.279-2.130)	
	protestant	5(55.56%)	4(44.44%)	9	1.064(.112-10.123)	
	Muslim	47(82.69%)	5(17.31%)	52	.133(.027-.662)	
education	less than junior	68(89.47%)	8(10.53%)	76	3.831(.460-31.874)	
	Secondary (9-10)	71(89.875)	8(10.13%)	79	.547(.183-1.634)	
	Tertiary	97(84.34%)	18(15.66)	115	1	
occupation	housewife	50(92.59%)	4(7.41%)	54	2.909(.808-10.478)	
	merchant	63(82.10%)	13(17.10%)	76	4.545(.982-21.032)	
	government employee	11(73.33%)	4(25.67%)	15	1.762(.485-6.407)	
	student	51(89.47%)	6(10.53%)	57	1	
	<500	51(89.47%)	6(10.53%)	57	1.242(.445-3.466)	
income	500-1500	96(86.49%)	15(13.51%)	111	.935(.421-2.074)	
	>1500	89(87.26%)	13(17.74%)	102	1	
Age interval	18-34	219(87.25%)	32(12.75%)	251	.805(.178-3.650)	
	35-49	17(89.47%)	2(10.53%)	19	1	
Parity interval of mothers	1-3	103(85.12%)	18(14.88%)	121	7.033(.429-115.437)	
	4-6	124(89.86%)	14(10.14%)	138	8.000(.390-164.014)	
	.>=7	9(81.82%)	2(18.18%)	11	1	

The result at private health facilities (Table 4) showed that there is no variable that have significance association on the client's satisfaction on ANC services.

6. DISCUSSION

Client satisfaction is considered as one of the indicators of quality healthcare services. It is also important for developing a strong consistent relationship between patients and healthcare professionals. (25)

The findings of this study showed that out of the total 540 respondents, 389(72.0%) were satisfied on ANC services whereas 151 (27.9%) were unsatisfied on the service. The proportion of participants who are satisfied with the service among public and private health facilities are 174(64.4%) and 215(79.6%) respectively. The analysis made based on a binary logistic regression model to identify the factors affecting client's satisfaction on ANC services has showed significant difference on the matter regarding the occupation at public health institutions with housewives (AOR=4.735 CI (1.291-17.372), merchant s(AOR=3.843 CI (.981-15.061)) and (AOR= 2.7, CI : 0.72-10.170) as compared to students. where as there is no variables that has association with ANC client satisfaction at private facilities.

Therefore the study finding reveals the same trend with a study in Gambia, where the level of satisfaction was found to be 79.9% and 97.9% in the public and private health facilities respectively. Though the overall satisfaction rate is a bit lower in our study, the level of satisfaction is found to be consistently better in the private health facilities in both studies [13].

When we see further on the elements of client satisfaction such as costs paid for services, waiting time, drugs and supplies, courtesy and respect, adequacy of information given during counseling, cleanliness of health facilities, confidentiality and trust in service providers, and privacy issues, the result again showed congruent results.

A source of dissatisfaction with healthcare, often noted by patients, is the amount of time they wait during facility visit. Several studies have documented the relationship between waiting for service and overall satisfaction, with longer waiting times being associated with decreased patient satisfaction. Therefore With regard to waiting time the result showed 70.4% were satisfied; the figure was highest in private (82.2%) than the public health facility (58.5%).(8)

Our study showed that the client satisfaction on waiting time is different from the studies conducted in Gondar (22.0%) and Jima (57.1%). This could be explained due to the target differences, pregnant women who are getting more focus and general clients at the outpatient with different needs priorities. (8)

Cognizant to these different literatures stated that waiting time is main cause for client satisfaction. This studied showed that private facilities have short waiting time than public facilities, the respondents who have to wait more are the least satisfied group. This finding is similar to other studies performed in other Malaysian states. (24)

The study has revealed that lack of drugs and supplies in 65.2% and 79.3% public and private health facility respectively. This finding have similarity with that of the study conducted in Jimma hospital earlier, where 63.7% of the clients lacked drugs from the hospital's pharmacies and many studies have also indicated that patients equate availability of drugs with high quality services and has direct relation with client satisfaction. (8)

The frequently mentioned factors for client satisfactions are providers behavior as explained by respect and courtesy, privacy, and waiting time. These factors are also well explored in our study and found to be in consistent with studies in Ibadan (Nigeria), Bangladesh and Gambia (8, 13).

Out of the 270 respondents attending ANC service at private facilities, majority had reported relatively better satisfaction rate regarding respect as compared to the public facilities. Thus, 247 (91.5%) mothers were found to be satisfied by the respect and courtesy they had get, 248 (91.9%) for cleanliness, 249 (92.2%) for trust and confidentiality, and 214 (79.3%) for availability of drugs in the private health facilities. The corresponding numbers among the 270 mother attending public facilities for ANC service were found to be 195 (72.2%), 199 (73.7%), 221 (81.9%), and 176 (65.2%) respectively. This finding was in congruent with the studies among mothers attending ANC in Gambia [13]

Generally, as you already familiar with studied in both public and private facilities studied, clients were satisfied with ANC services. This finding was similar to some studies conducted in an African country like Gambian (86% satisfaction), and

Nigeria. This may be due to the fact that significant portions of the population in developing countries are deprived of a fundamental right of access to basic health care. However, in recent years, many developing countries have been actively seeking to improve the quality and outcomes of the health care delivery system by engaging in a process of reform. Consequently private health facilities were introduced in addition to public health facilities to ensure accessibility and availability to a greater extent where services can clearly fill gaps where services are inadequate in the public health facilities the service quality at private health facilities was considered better in regard to physical infrastructure, availability of services and high professionals. (14)

The only factor contributing to client satisfaction in favor of public health facilities was found to be the cost paid for ANC services. Thus, 247 (91.5%) of the 270 mothers attending public health facilities had reported their satisfaction as compared to the 226 (83.7%) mothers attending private health facilities. This is expected and in consistent with the studies in Ethiopia since maternal care expenses are exempted in the public health facilities, unlike the private for profit health facilities, which draws payments for examination and other laboratory services (11).

7. CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion:

This study had revealed that mothers getting ANC at private facilities showed greater satisfaction level, as explained by the level of respect and courtesy they get from providers, the waiting time to get services, the cleanliness of the health facility, the trust and confidentiality, and the adequacy of information they get. A number of socio-demographic factors have been taken like age, education level, parity, occupation and marital status to examine if they can contribute for the client's level of satisfaction for ANC services. However, none of them were found to be related with the satisfaction rates the scored except occupation.

7.2 Recommendations:

Taking the contributing factors for clients' satisfaction in this study, the following points can be recommended to improve the satisfaction rate of ANC service in both public and private facilities, which have direct impact on the quality of care. Thus, Tigray Health Bureau, District Health Offices and all other concerned need take timely measures on the factors affecting clients' satisfaction. These measures could be shortening the waiting time to get ANC services, increase availability of drugs, and support health care providers to give adequate information and due respect for mothers with privacy. On the other hand, the private facilities need to consider the cost for service to be affordable by the mothers and to work in close partnership with the government. An intensive effort among all stakeholders is needed to sensitize the community on the importance of obtaining timely and adequate care during pregnancy.

Finally the Regional health bureau should work towards enhancing staff motivation through introduction of incentives and better working environment include private health facility provider in related trainings to address staff turnover rates at private health facilities.

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9. ANNEXES

Annex I: Information sheet and consent form (English version)

Title of the Research Project:

Assessment of client's satisfaction on antenatal care service in private-for-profit (PFP) health facilities comparison of public health facilities in Tigray region

Name of Principal investigator: Zeru Gebremedhin

Name of the organization: University Gondar, college of Medicine And Health Sciences, Institute of Public Health

Name of the Sponsor: Self

Introduction

This information sheet form is prepared for all clients coming for ANC care to participate in this research project.

Purpose of the Research Project

The purpose of this research is to **Asses of client's satisfaction on antenatal care service in private-for-profit (PFP) health facilities comparison of public health facilities in Tigray region** and contributes much to design appropriate intervention strategies to increase client satisfaction

Procedure

The study involves for all clients coming for ANC. You are selected randomly to be one of the study participants if you are willing to take part in this study and we kindly invite you to take part in our project. If you are willing to participate, we are so happy and we need you to clearly understand the aim of this study and show your agreement .Finally you are kindly requested to give your genuine response in the interview.

Risk/ Discomfort

By participating in this research project, you may feel that it has some discomfort especially on wasting time about 30 minutes. There is totally no risk that comes to one whom document will be reviewed whereas the review is of great importance to the research project; which we hope sake of the benefit of the research result that helps to plan intervention for the gap identified.

Benefits

If you participate in this research project, there may not be direct benefit from the study. However, the indirect benefit of the research for participant program is important. This is because if the policy makers and program planners are preparing predicted plan there is a benefit for clients in the program of getting proper care and treatment services. For all, the research work has enormous direct benefit for health care planners, managers at different levels, health care providers.

Incentives

Participants will not be provided any incentives or payment to take part in this project.

Right to Refusal or Withdraw

You have the full right to refuse from participating in this research. You have also the full right to withdraw from this study at any time you wish.

Confidentiality:

The information collected for this research project will be kept strictly confidential, the information will be interviewed by trained staff nurses, and the Information will be stored in a file, without name, but a code number assigned to it and it will not be revealed to anyone except the principal investigator and will be kept locked with password and appropriate locks.

Persons to contact:

This research project will be reviewed and approved by the Institutional review board of college of medicine and health sciences, university of Gondar. If in case you want to know more about information about the research and its undertakings, you will contact the committee through the address of the advisors and principal investigator below. If you have any question, please contact the following persons.

- 1) Zeru Gebremedhin :- Cell phone: +251-914-72-3546

E-Mail:zerug2000@gmail.com

- 2) Abebaw Gebeyehu (PhD) :- Cell phone:-+251-920-314519

Email:gabebaw2worku@gmail.com

- 3) Tadesse Aweke (MSC):- Cell phone:-+251-910-17-33-08

E-mail: tawoke7@gmail.com

Annex II: Consent form

My name is _____ I am from Gondar University Public health institute,

Which this survey conducts for my MPH thesis and collecting data on client satisfaction on maternal health services to compare in public and private set up so I would like to ask you some questions and the interview should take about 30 minutes. Your participation in the study is completely voluntary, and the answers you provide are confidential and your name will not be used in the final report. Do you agree to participate in the study? And you can withdraw any time after you get involved in the study without compromising the service you ought to get from the hospital or health center. I assure you that the information that you are going to give will be kept in secrete. Therefore, you are free to respond or not to respond the questions. Your support and willingness in responding the questions will be very important for the success of this study. Do you have any question? Can we begin?

Signature of interviewer which indicates that the respondent has consented to participate in the study:

Name of the interviewer Sign Date of interview_____

Name of supervisor Sign Date

1. Basic Profile

	Item	Response
1.1	Region	
1.2	Zone	
1.3	Woreda	
1.4	Town	
1.5	Facility	1 = Public facility 2=private facility
1.6	Name of facility	
1.7	Date of data Collection	(dd/mm/yy)
1.8	Interviewer Name	
1.9	Supervisor	

2. Socio demographic characteristics

S/n	Questions	Responses by coding	Skip to
2.1	Address	1. Region_____	
		2. Zone_____	
		3. Town_____	
		4. Keble_____	
2.2	Residence	1. Urban 2. Rural	
2.3	Age respondent in years		
2.4	Number Pregnancy	Gravida:____, Para:____, No children alive:____	
2.5	Marital status	1. Married 2. Single 3. Divorced 4. Widowed 5. Separated	
2.6	Religion	1. Orthodox 2. Catholic 3. Protestant 4. Muslim 5. Others_____	

2.7	Educational status	1. No formal education 2. Primary education (1-4) 3. Junior education (5-8) 4. Secondary education(9-10) 5. Tertiary (diploma and above)	
2.8	Your occupation	1. House wife 2. Merchant 3. Gov. employee 4. Student 5. Others	
2.9	Average monthly income	1. <500 2. 500-1500 3. >1500	

3. Knowledge related to ANC

3.1	What do you think are the advantage of ANC. Multiples answer are possible	1. Helps to detect problems early 2. Helps to informed place of delivery 3. Helps to check the condition of fetus 4. Helps to get treatment early 5. Helps to get nutritional counseling 6. Helps to set TT vaccination 7. Helps to get micro nutrient supplementations 8. Helps to get PMTCT services 9.
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4. level of Client satisfactions on the service

S/ N	Dimension of care and level of satisfaction	Very satisfied	Satisfied	Partial	dissatisfied	Very dissatisfied
1	Waiting time to see health worker					
2	Courtesy and respect					
3	Information, education and counseling					
4	Over all cleanliness of the facility					
5	Confidentiality and trust in provider					
6	Availability of drugs and supplies					
7	Cost paid to service					
8	Level of privacy during examination					

ቅጥዒ ስምምዕ

ሽመይ ዝተበሃልኩ ካብ ኅንደር ዩኒቨርሲቲ ፓብሊክ ሄልዝ ኢንስቲቲዩት ተማሃራይ እንትኸውን እዚ ፅንዓት ን2^ይ ድግሪ መፅናዕተይ ኣብ ዕግበት ግልጋሎት ክንክን ጥዕና ጡኑሳት ኣዴታት ኣብ ናይ መንግስታዊ ን ናይ ግሊ ጥዕና ትካላት እንታይ ክምዝመስል ንምርኣይ ዝሕግዙ ዝተወሰኑ ሕቶታት ክሓተካ/ኪ ፍቓደኛ እንተኮይንካ/ኪ ዝወስደልካ ግዝ ብግምት 30 ደቂቓ እዩ።

ኣብዚ መፅናዕቲ ንክትሳተፍ/ፊ እትኸእል/ሊ ብሙሉእ ድሌት እንትኸውን እትህብዎ መልሲ ምስጢሩ ዝተሓለወን ኣፍቲ ናይ መወዳእታ ሪፖርት ዘይካተትን ምዃኑ ክረጋግፅ ይደሊ። ኣብዚ መፅናዕቲ ንምስታፍ ፍቓደኛ ዲኻ/ኺ? ኣብዝደለኻ/ክዩ ድልየትን ድጋፍን ነፃነተ ኣለካ/ኪ። ነዚ ናይዚ ፅንዓት ዕውትነት እዞም ሕቶታት ንምምላስ እተርእዮ/ኢዮ ድልየትን ድጋፍን ድማ ዓብዪ ረብሓ ኣለዎ። ዝኾን ሕቶ እንተልዩ ከንጅምር ‘ዶ ንኸእል?

ተሓታቲ ኣብቲ ፅንዓት ንምስታፍ ድልየቱ/ታ ዝርኣዩ ምዃኑ ንምርግጋፅ ናይ ሓታቲ ፊርማ _____

ሽም ሓታቲ

ፊርማ

መጠይቕ ዝተገበረሉ ዕለት

ሽም መተሓባበሪ

ፊርማ.....

ዕለት

1. መጽሐፍ

	መግለጫ	መልሱ
1.1	ክልል	
1.2	ዞን	
1.3	ወረዳ	
1.4	ከተማ	
1.5	ትካል ጥዕና	1 = ናይ መንግስቲ 2 = ናይ ውልቀ
1.6	ሽም ትካል ጥዕና	
1.7	ሓበሬታ ዝተጻኸበሉ ዕለት	(ዕለት /ወርሒ/ዓመት)
1.8	ሽም ሓታቲ	
1.9	መተሓባበሪ	

2. ሓፈሻዊ ሓበሬታ

ተ.ቁ	ሕቶታት	መልሱ ብኩድ	ናብ... ሕላፍ
2.1	አድራሻ	1. ክልል _____ 2. ዞን _____ 3. ከተማ _____ 4. ጣቢያ _____	
2.2	ትንብረት/ሽባቢ	1. ከተማ 2. ገጠር	
2.3	ዕድመ ተሓታቲ ብዓመት		
2.4	በዝሒ ጥንሲ _____	በዝሒ ወሊድ: _____	
2.5	ኩነታት ሓዳር	1. በዓል ሓዳር 2. ዘይተመርዓዎት 3. ዝፈትሐት 4. ዝሞታ 5. ተፈላለዮም ዘነብሩ	
2.6	ሃይማኖት	1. ኦርቶዶክስ 2. ካቶሊክ 3. ፕሮቴስታንት 4. ሙስሊም 5. ካልእ _____	

2.7	ኩነታት ትምህርቱ	1. መደበኛ ትምህርቱ ዘይብሉ 2. ቀዳማይ ብርኪ (1 ^ይ - 4 ^ይ) 3. ማእከላይ ብርኪ (5 ^ይ - 8 ^ይ) 4. ካልኣይ ብርኪ (9 ^ይ - 10 ^ይ) 5. ሳልሳይ ብርኪ (ዲፕሎማ ካብኡ ንላዕሊ)	
2.8	ዓይነት ስራሕ	1. ባዓልቲ ሓዳር 2. ነጋዳይ 3. ናይ መንግስቲ ተቐፃሪ 4. ተማሃራይ/ሪት 5. ካሊእ	
2.9	ወርሓዊ ኣታዊ ብማእከላይ	1. <500 2. 500 — 1500 3. >1500	

3. ምስ ቅድመ ወሊድ ተሳሳሊሩ ዘሎ ኣፍልጦ

3.1	ረብሓ ክትትል ቅድመ ወሊድ እንታይ'ዩ? ካብ ሓንቲ ንላዕሊ መልሲ ምሃብ ይከኣል።	1. ፀገማት ብእዋኑ ንምፍላይ ይሕግዝ 2. እትወልደሉ ቦታ ፈሊጥካ ንምፅናሕ ይሕግዝ 3. ናይ ድቂ ኩነታት ንምፍላይ ይሕግዝ 4. ሕክምና ወይ ግልጋሎት ንምርካብ ይሕግዝ 5. ናይ ስነ --- ምኽሪ ንምርካብ ይሕግዝ 6. ፐፐ ክታበት ንምፍላይ ይሕግዝ 7. ተወሳኽቲ ከኒን/መድሓኒት ንምርካብ ይሕግዝ 8. ግልጋሎት ምክልኻል ምምሕላፍ ኤች ኣይ ቪ ካብ ኣዶ ናብ ዕሽል ንምርካብ ይሕግዝ
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4. ደረጃ ዕግበት ተጠቀምቲ ግልጋሎት

ተ.ቁ	ኩነታት ክንክን ብርኪ ዕግበትን	አዐርያ ዓጊበ	ዓጊበ	ብክፋል ዓጊበ	አይዓገብኩን	አዝዩ አይዓገብኩን
1	ጥዕና ብዓል ሞያ ንምርካብ ዝወስዶ ግዘ					
2	ክብርን ሓገዝ ን ክንክን					
3	ሓበሬታ ጥዕና፣ አስተምህሮን ግልጋሎትምኽርን					
4	አጠቓላሊ ዕርየት ጥዕና ትካል					
5	ናይ ግልጋሎት ወሃቢ ምስጢር ምሕላውን እምነትን					
6	ቐረብ መድሓኒት ን ሕክምና ናውትን ምህላው					
7	ንግልጋሎት ዝኸፈል ዋጋ					
8	ኣብ ግዘ ምርመራ ዘሎ ምሕላው ውልቀ ድልየት					

Declaration

I, the undersigned, senior MPH student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public Health.

Name: Zeru Gebremedhin Tesfay

Signature: _____

Place of submission: School of public Health, College of Medicine and Health Sciences,
University of Gondar.

Date of Submission: _____

This thesis work has been submitted for examination with my/ our approval as
university advisor(s).

Advisors

Name

Signature

ASSURANCE OF INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific, ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the research and publications office of the University of Gondar.

Name of the student: Zeru Gebremedhin Tesfay

Date: _____ Signature: _____

Approval of the advisor (s)

Advisors

Name	Signature	Date
1. Dr. Abebaw Gebeyoh	_____	_____
2. Mr. Tadesse Awoke	_____	_____